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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/596,245	Applicant(s) YOKOHARA, TOYOAKI	
	Examiner Ernesto Garcia	Art Unit 3679	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 06 June 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-9 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-9 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 06 June 2006 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date <u>6/6/2006</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Drawings

The drawings are objected to as failing to comply with 37 CFR 1.84(p)(4) because reference character "4" has been used to designate both a ball seat with a first configuration of the dimples (Figure 1-4), a ball seat with a second configuration of the dimples (Figure 5), and a ball seat with a third configuration of the dimples (Figure 6).

The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, the "lines" (claim 3, line 2) must be shown or the feature(s) canceled from the claim(s). No new matter should be entered. Note that the invention would be better understood visually by showing some physical lines on the pattern of the concave portions.

The drawings are objected to because the use of reference character 51 is improper. Note that in Figure 1 it tends to depict other reference characters in Figure 1 and in Figure 2 reference character 51 tends to depict a specific dimple. Further reference character "O" in Figures 1, 5, and 6 is missing the lead line.

Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended

replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Claim Objections

Claims 1, 4, 5, and 7 are objected to because of the following informalities:

regarding claim 1, "this" in line 3 should be --the-- and the recitation "comprising" in line 4 should be --further comprising-- since line 2 already recited a first instance of "comprising";

regarding claim 4, "these" in line 7 should be --the--;

regarding claim 5, "comprising" in line 4 should be --further comprising-- since line 2 already recited a first instance of "comprising"; and,

regarding claim 7, "this" in line 5 should be --the--. Appropriate correction is required. For purposes of examining the instant invention, the examiner has assumed these corrections have been made.

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 1-9 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Regarding claim 1, the metes and bounds of the claim is unclear. In particular, how do the limitations, "provided in a socket with an opening" in line 1, and "that rotatably holds an approximately globular ball portion of a ball stud" in line 2 further limits the bearing seat. Further, what is provided in the socket in line 1? Is it the bearing seat or the ball joint? Assuming arguendo that the bearing seat is provided in the socket, is the socket being claimed as part of the bearing seat? Is the globular ball portion of the ball stud also being claimed as part of the bearing seat? For purposes of this Office action, the examiner has considered the bearing seat alone. The recitation "the opening portion" in line 4 lacks proper antecedent basis. Further, it is unclear whether the lubricant is being claimed as part of the bearing seat.

Regarding claim 3, the recitation "the mutually adjacent lines" in line 3 makes unclear whether the lines are those that are in the predetermined direction or other different lines.

Regarding claim 4, the recitation "having opening areas" in line 5 contradicts "the at least one tier" in line 4 since for there to be opening areas there has to be at least three tiers so that two opening areas can be compared to each other. Note that reciting at least one tier does not enable one to compare the areas since one tier does not provide opening areas along the latitudinal direction. Further, the recitations "at ... an equator side" in lines 7 and "the tier at the equator" in lines 9-10 are misdescriptive and/or inaccurate since no tier is located at the equator. Note that the housing portions are above the equator (see Figures 1, 5, and 6). Further, the recitation "the longitudinal direction of the at least one tier", in line 7, lacks proper antecedent basis. Note that line 4 recites "the at least one tier" along the latitudinal direction, instead.

Regarding claim 5, the metes and bounds of the claim is unclear. In particular, how do the limitations, "provided in a socket with an opening" in line 1, and "that rotatably holds an approximately globular ball portion of a ball stud" in line 2 further limits the bearing seat. Further, what is provided in the socket in line 1? Is it the bearing seat or the ball joint? Assuming arguendo that the bearing seat is provided in the socket, is the socket being claimed as part of the bearing seat? Is the globular ball portion of the ball stud also being claimed as part of the bearing seat? For purposes of

this Office action, the examiner has considered the bearing seat alone. The recitation "the opening portion" in line 3 lacks proper antecedent basis. It is unclear whether the lubricant is being claimed as part of the bearing seat. Further, the recitations "the tier at one-end side" and "the tier at an equator side" in lines 8-9 lack proper antecedent basis.

Regarding claim 7, assuming that the socket is being claimed as part of claim 1, the recitation "provided in the socket" in claim 1, line 1, provides for a double inclusion of the socket since claim 7 already recites another socket in line 2.

Regarding claim 9, assuming that the socket is being claimed as part of claim 1, the recitation "provided in the socket" in claim 5, line 1, provides for a double inclusion of the socket since claim 9 already recites another socket in line 2.

Regarding claims 2-4, the claims depend from claim 1 and therefore are indefinite.

Regarding claims 6 and 8, the claims depend from claim 5 and therefore are indefinite.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1-3 and 5-10 are rejected under 35 U.S.C. 102(b) as being anticipated by Jaworski et al., 5,795,092.

Regarding claim 1, Jaworski et al. disclose, in Figure 2, a bearing seat comprising a spherical sliding surface **52** having a latitudinal direction **A1**, a longitudinal direction **A2**, and an opening **A3** (see marked-up attachment). Housing concave portions **54** are respectively opened at alternate positions on the sliding surface **52** and house a lubricant (col. 4, lines 53-55)

Regarding claim 2, the housing concave portions **54** are respectively opened on the sliding surface so that mutually adjacent ones are different in latitudinal direction position and longitudinal direction position from each other. Note that the difference is in the different locations of the pattern.

Regarding claim 3, the housing concave portions **54** form lines A4,A5 along a predetermined direction. Respective opening areas A5 of mutually adjacent lines of the lines A4,A5 are different from each other.

Regarding claim 5, Jaworski et al. teach, in Figure 2, a bearing seat comprising a spherical sliding surface and housing concave portions that are respectively opened on the sliding surface. The concave portions form tiers along the longitudinal direction and form tiers along the latitudinal direction. Some of the tiers have opening areas equal to each other and some of the tiers have opening areas sequentially increasing from a tier at one-end side to a tier at an equator side in the longitudinal direction. The concave portion houses a lubricant.

Regarding claim 6, the housing concave portions **54** are respectively opened in approximately circular forms.

Regarding claim 7, Jaworski et al. disclose, in Figure 1, a ball joint comprising a socket **12**, a bearing seat **18**, and a ball stud **28**. The socket **12** has an opening portion **22**. The bearing seat **18** is provided in the socket **12**. The ball stud **28** has a ball portion **30** rotatably held in this bearing seat **18** and housed in the socket **12**. A stud portion **34** is provided in a protruding condition from the ball portion **30**. The bearing seat **18** comprises a spherical sliding surface **52** having a latitudinal direction, a longitudinal direction and an opening **A1** (see marked-up attachment). Housing

concave portions **54** are respectively opened at alternate positions on the sliding surface **52** and house a lubricant (col. 4, lines 53-55).

Regarding claim 8, the housing concave portions **54** are opened respectively in approximately circular forms.

Regarding claim 9, Jaworski et al. disclose, in Figure 1, a ball joint comprising a socket **12**, a bearing seat **18**, and a ball stud **28**. The socket **12** has an opening portion **22**. The bearing seat **18** is provided in the socket **12**. The ball stud **28** has a ball portion **30** rotatably held in this bearing seat **18** and housed in the socket **12**. A stud portion **34** is provided in a protruding condition from the ball portion **30**. The bearing seat **18** comprises a spherical sliding surface **52** and housing concave portions **54** that are respectively opened on the sliding surface. The concave portions form tiers along the longitudinal direction and form tiers along the latitudinal direction. Some of the tiers have opening areas equal to each other and some of the tiers have opening areas sequentially increasing from a tier at one-end side to a tier at an equator side in the longitudinal direction. The concave portions **54** house a lubricant.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claim 4 is rejected under 35 U.S.C. 103(a) as being unpatentable over Jaworski et al., 5,795,092, in view of Ahn, KR-2001107452.

Regarding claim 4, Jaworski et al. disclose the housing concave portions include first housing portions and second housing portions. The first housing portions form at least one tier along the latitudinal direction. The second housing portions form tiers, at one-end side and an equator side in the longitudinal direction respectively. Some of the tiers have opening areas equal to each other and other of the tiers have opening areas sequentially increasing from the tier at the one-end side to the tier at the equator side in the longitudinal direction.

However, the at least one tier along the latitudinal direction does not have opening areas almost equal to each other. The Korean patent teaches at least one tier along the latitudinal direction having opening areas almost equal to each other to stabilize the ball seat and the ball stud with minimum contact area (see English abstract). Note that the spacing is different between two groups. Therefore, as taught by the Korean patent, it would have been obvious to one of ordinary skill in the art at the time the invention was made to shift the first housing portions along the latitudinal

direction so that at least one tier does not have opening areas almost equal to each other to stabilize the ball seat and the ball stud with minimum contact area.

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Kaisha, GB-2,229,765, teaches openings areas that are almost equal to each other.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Ernesto Garcia whose telephone number is 571-272-7083. The examiner can normally be reached from 9:30AM-6:00PM. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Daniel P. Stodola can be reached at 571-272-7087.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only.

Application/Control Number:
10/596,245
Art Unit: 3679

Page 12

For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

E.G.

Daniel P Stodola

E.G.

December 5, 2007

Attachment: one marked-up page of Jaworski et al., 5,795,092

DANIEL P. STODOLA
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 3600

Jaworski et al., 5,795,092

